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ORIGINAL ARTICLE

'Where Art Thou' in the implementation of inclusive education? Parental assessment of practices

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Abstract
The important role of parents in efforts to promote accessible education for all children cannot be overemphasized. However, the current literature has mainly focused on parental perceptions of the implementation of inclusive education without extending the discussion to the effectiveness of inclusive practices in schools. Ainscow and Miles developed an inclusive education measurement model which was used in the current research as a framework for studying parental assessments of inclusive practices in schools in Jordan and the United Arab Emirates. A total of 550 parents completed a survey on inclusive education. The results were then subjected to confirmatory factor and moderation analyses using SPSS AMOS, as well as multivariate analysis of variance using SPSS, to understand the association between parents' profiles and measurement indicators. The findings indicate interrelationships between the inclusive education measurement indicators (concept, policy, structure and system, and practice). In addition, parents' country of origin was used as a moderator and was demonstrated to have an effect on the relationship between child type, inclusive policy and all the indicators. The study concludes with the recommendation that policymakers should consider each of the indicators in future reforms towards inclusive education.

Keywords Inclusive practices · Parents · Children with disabilities · Jordan · United Arab Emirates

1 Introduction

Inclusive education is an educational philosophy intended to promote equitable access to education for all (Boyle & Anderson, 2020; Kefallinou et al., 2020). Over the past two decades, many countries have embraced inclusive education as a useful policy to extend educational access to minority groups in societies (Ainscow & Sandill, 2010;

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Deng & Poon-McBrayer, 2012; Engelbrecht et al., 2017; Forlin, 2011; Kalyanpur, 2014; Sharma et al., 2016, 2018a; Singal, 2019). For instance, children with disabilities were mainly restricted to special school systems which has been criticised to be discriminatory and do not offer employable skills (Kefallinou et al., 2020). Advocates for inclusive education has indicated that the participation of children with disabilities in regular schools would enable them to co-exist with their typically developing peers as well as acquire useful skills such as social skills and appropriate behaviours for independent living (Boyle & Anderson, 2020; Engelbrecht, 2020; Kefallinou et al., 2020). According to Kefallinou et al. (2020) and Heward (2013), the implementation of inclusive education not only benefit children with disabilities however, typically developing children who might needs additional time to 'assimilate concepts' in classrooms. Consequently, international organizations such as the United Nations and UNESCO have taken the lead, partnering with governments and encouraging them to revise their educational policies to enable all children to participate in education. While many countries have made progress with the development of educational policy, contemporary discussions have centred on ways through which countries such as Jordan and United Arab Emirates (UAE) would effectively implement inclusive education. Parental assessment of implementation of inclusive education would be help gather useful information which might inform educational policies and practices.

Although there is consensus about the relevance of inclusive education, the main concern or difference between countries has been approach to practice (Boyle & Anderson, 2020). One such area of contention concerns the conception and scope of inclusive practices in schools. For instance, inclusive education is broadly defined as promoting the teaching of all students in one classroom (Ainscow & Sandill, 2010; Boyle & Anderson, 2020). This definition encompasses diverse children comprising children with disabilities, with a refugee background, from poor socio-economic backgrounds and those who are orphans. Due to the broad nature of this definition, another school of thought argues that some children might not be taken care of in an inclusive classroom, or if they are, they may not be targeted specifically (Sharma et al., 2017). In this regard, arguments have been advanced for the implementation of inclusive education with a particular group of children in mind. For example, Sharma et al. (2017) defined inclusive education as creating opportunities for students with disabilities to participate in schools located within their neighbourhoods. This definition of inclusive education with a particular group, such as students with disabilities, guided this study because in both Jordan and UAE, inclusive education is intricately or intuitively linked to the education of students with disabilities in neighbourhood schools. It is thus useful to understand effectiveness of inclusive practices among parents within the tenets of the narrow conception of inclusive education.

One key stakeholder in the implementation of inclusive education are parents who are expected to enrol their children in schools. It is undeniable that parents are the primary caregivers for their children and, as such, are tasked to support their socialization in the community (Heward, 2013; J-F et al., 2021). In most countries, including Jordan and the UAE, parents are the legal custodians and, as such, expected to make decisions concerning their children (J-F et al., 2021). In terms of access to schools, parents are expected to search for appropriate places where they believe their children could benefit from the learning processes (Mann, 2016; Mann et al., 2015, 2018). Indeed, research has shown that if parents are involved in the education of their children, this has a positive impact on the learning or success of the children (Fan & Williams, 2010; Gonida et al., 2014; Ma et al., 2016). Parents are required to be actively involved in school activities as well as supporting the teaching processes at home. Consequently, in the event of implementation of policies

such as inclusive education, the opinions of both parents of children with disabilities and their typically developing peers are critical for the successful implementation of the policy.

Studies on parental appraisal of the effectiveness of inclusive practices in countries such as Jordan and the UAE are non-existent. Available studies have focused on parental perspective towards implementation of inclusive education (e.g., Dukmak et al., 2023); with limited focus on effectiveness of inclusive practices in schools. Elsewhere, the literature has also highlighted challenges with regard to practice, ranging from school-related to environment-related barriers (Al-Hassan et al., 2022; Bamu et al., 2017; Carew et al., 2019; Deng & Poon-McBrayer, 2012; Engelbrecht et al., 2017; Forlin, 2011; Kalyanpur, 2014; Singal, 2019). Across Jordan and the UAE, some studies have linked the inability of teachers to adopt inclusive practices in classrooms to lack of resources, inadequate training and the ineffective implementation of policies (Al Shoura & Ahmad, 2015; Alborno, 2017; Alkhateeb et al., 2016; Gaad, 2011; Gaad & Almotairi, 2013; Muhaidat et al., 2020; Rodriguez, 2021). More so, while the evidence indicates that parents in both Jordan and the UAE are struggling to raise their children with disabilities (Dukmak et al., 2012; Dukmak, 2009a; Khamis, 2007) or to have access to useful resources and services (Al-Gamal & Long, 2013; Dukmak, 2009b; Lamba et al., 2022; Opoku et al., 2023), limited attention has been paid to comparing the perspectives of parents of children with disabilities and those with typically developing children when it comes to effective practice of inclusive education in schools. To extend the literature, a broad lens was used to evaluate effectiveness of inclusive practices in schools among parents of children with disabilities and those with typically developing children in Jordan and the UAE.

1.1 Conceptual framework

The complexities surrounding the implementation of inclusive education cannot be overemphasised. Understandably, the assessment of the effectiveness of inclusive education requires a complex lens to ascertain how well the policy is being implemented. Several frameworks such as theory of planned behaviour (Azjen, 1991) and the ecological systems model (Bronfenbrenner, 2005) have been used to study inclusive education. While theory of planned behaviour focuses on intention towards inclusive practices (Sharma et al., 2018b), ecological systems model explains factors which may impact on development of children in school (Bronfenbrenner, 2005). However, only one model has been recommended or proposed as a lens to measure the effectiveness of practices. Specifically, Ainscow and Miles (2009) developed four interrelated measurement indicators (concept, policy, structure and system, and practice) which could be used to measure progress made with the implementation of inclusive education (see Fig. 1). According to Ainscow and Miles (2009), inclusive education is a process, which means that there will be regular assessments of the practices within a context to understand the state of progress. Consequently, this study was guided by Ainscow and Miles' (2009) inclusive education measurement indicators, which were developed as a result of a comprehensive international study and a literature review on inclusive education.

The first measurement indicator is *a concept* that is characterized by the availability and effective implementation of national educational policies and reforms on inclusive education. This component looks at the following: inclusive education is locally conceptualized and drives national development. There are numerous policies and declarations supporting the enactment of inclusive education in Jordan and the UAE (Benson, 2020; Gaad, 2011). It is expected that all persons are effectively engaged, educated, and accept efforts towards

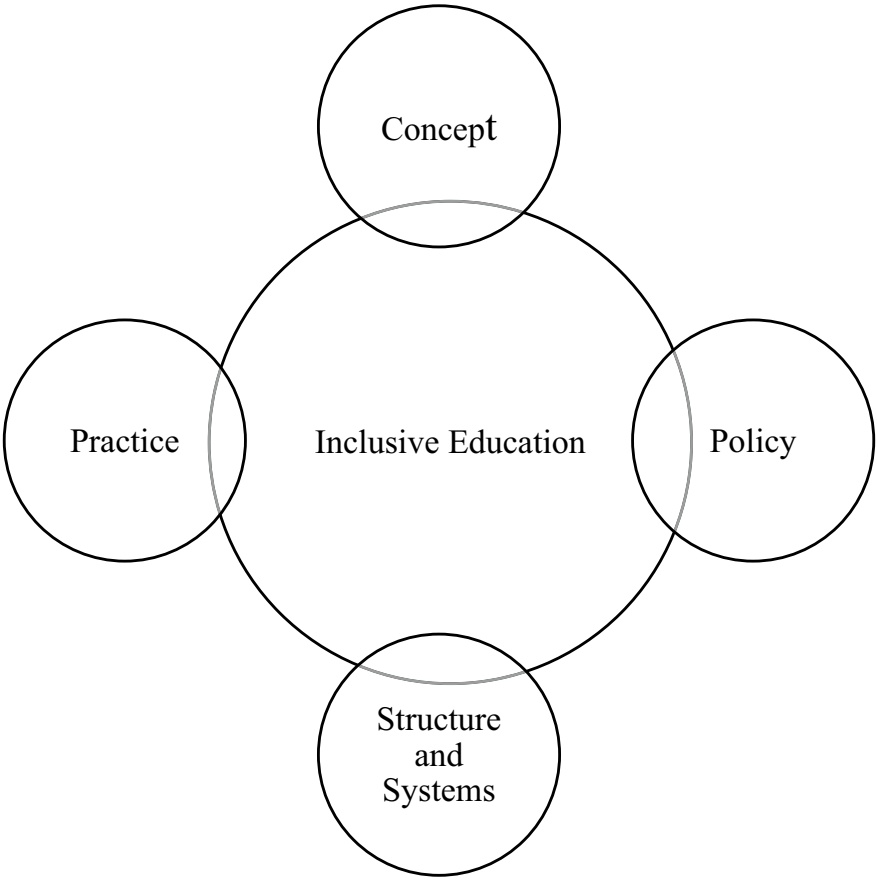

Fig. 1 Inclusive education performance indicators

implementing inclusive education. In response, the curricula used in schools have been customized to address the learning needs of diverse learners in classrooms. Not only that, but all allied health professionals, such as therapists, understand and support the implementation of inclusive education. There should be a monitoring of inclusive systems to evaluate all learners' effective incorporation and participation in one classroom (Loreman et al., 2014).

The second component is *policy*. Here, the government prioritizes the implementation of inclusive education and reiterates the need to implement inclusive education in major policy documents and proclamations. In both Jordan and the UAE, there is a strong political commitment and government effort towards implementation of inclusive education (Benson, 2020; Gaad, 2011). However, the commitment of government is expected to lead to a solid inclusive leadership, both inside and outside of schools, leading to inclusive education awareness campaigns. Specifically, leaders strongly support practices and initiate or develop strategies to address all non-inclusive practices in schools.

The third measurement indicator is *structure and system*, which are epitomized by the presence of quality support for vulnerable learners. Within a system, deliberate plans should be laid down to ensure the smooth implementation of inclusive education. There

are governmental agencies in both Jordan and UAE created to supervise the implementation of inclusive education (Benson, 2020; Gaad, 2011). These governmental agencies are supposed to coordinate as well as promote collaboration between schools and institutions managing the implementation of inclusive education are promoted (Heward, 2013). Most importantly, there is a distribution of human and financial resources among schools to support the implementation of inclusive education. For example, specialists such as therapists, nurses, social workers, and psychologists are deployed to schools to support teachers and students.

Practice is the fourth measurement indicator suggested by Ainscow and Miles (2009), consisting of the availability of qualified teachers who are supported with the requisite resources to promote the learning of all students. In Jordan and UAE, general and special education teachers are trained and deployed to schools to assist with the implementation of inclusive education (Gaad, 2011; Hamaidi et al., 2012). These qualified teachers are provided with all the requisite tools and professional development to contribute to the implementation of inclusive education. Schools have policies that promote the retention of all learners. There is also a specialized school-level programme designed for disadvantaged students. It is apparent that the available scales have attempted to understand teachers' preparedness (e.g., Cornoldi et al., 2016; Sharma & Jacobs, 2016) without paying much attention to support systems to complement the efforts of teachers.

Within the inclusive education literature (e.g., Sharma et al., 2017, 2019; Singal et al., 2015), these steps appear to constitute a more robust framework by which to measure the progress made by Jordan and the UAE in implementing inclusive education.

1.2 Parenting and inclusive education

In the field of inclusive education, comparative studies have been conducted to broaden discussions on transformation in policies and practice (D'Alessio & Cowan, 2013). Although many comparative studies have been conducted on the perspectives of especially teachers towards practices (e.g., Sharma et al., 2018b), the research has been very limited when it comes to understanding parental perceptions towards the implementation of inclusive education (Hamaidi et al., 2012). An exception is a study conducted on Ghana and Nigeria to develop insight into the understanding of parents of the implementation of inclusive education (Opoku et al., 2022). A significant difference was found between participants from Ghana and Nigeria in terms of their knowledge of and attitudes towards inclusive practices. While the parents in both countries seemed to have positive attitudes towards the implementation of inclusive education, there seemed to be little knowledge among parents of the implementation of inclusive education. This resulted in recommendations on the need for policymakers to intensify public education in order to create awareness among parents and promote public support for the implementation of inclusive education. Unfortunately, this study was limited to the attitudes of parents without going much into the insights of parents regarding actual practices in classrooms.

Studies have also been conducted in other countries such as Australia (Steven & Wurf, 2018), Ghana (Amponteng et al., 2019; Opoku et al., 2022), Germany (Paseka & Schwab, 2020), Hong Kong (Liu et al., 2015), India (Singal, 2016), Jordan (Abu-Hamour & Muhaidat, 2014), the Netherlands and Nigeria (Brydges & Mkandawire, 2018; Torgbenu et al., 2021), and Zimbabwe (Magumise & Sefotho, 2018), exploring the attitudes of parents towards the implementation of inclusive education. In a study conducted in Jordan, Abu-Hamour and Muhaidat (2014) studied the attitudes of parents towards the inclusion of

children with autism spectrum disorder in public schools. The authors reported a positive relationship between the educational qualifications of parents and the severity of child disability and parental attitudes. Similarly, in a qualitative study, Brydges and Mkwandawire (2018) studied the perspectives of parents towards the education of children with disabilities in schools in Nigeria. Parents were sceptical about the commitment of the Nigerian government towards providing the needed resources to support the teaching of children with disabilities. In Hong Kong, Lui et al. (2015) reported on the impact of knowledge and social norms on attitudes towards the implementation of inclusive education. Also, gender and level of education of children with disabilities provided additional explanations for the attitudes of parents.

It is evident that the available studies have paid much attention to perceptions without focusing on actual practices in schools. Inclusive education is in transition and, after almost 15 years of inclusive practices in Jordan and the UAE, it is useful to collect insights from parents with respect to effective practices.

1.3 Inclusive education in Jordan and the UAE

The current wave of the implementation of inclusive education has swept through Jordan and the UAE. Both countries are located in West Asia and share a common culture, language and practices. The populations of both countries constitute nearly 10 million; however, the UAE is dominated by expats living and working there. There is an emphasis on policy formulation to facilitate the implementation of inclusive education practices in schools in both countries. There are similarities between educational structure in both countries. For instance, in the Jordan, the education structure is as follows: 2 years of pre-school education, 10 years of compulsory basic education, two years of non-compulsory secondary education (academic or vocational training) and 2–4 years of tertiary education.

In the UAE, the education structure is as follows: cycle one (pre-school and grades 1–4) cycle two (grades 5–9), cycle 3 (grades 10–12) and tertiary education. In both countries, parents are at liberty to decide whether to enrol their children in public or private schools. In this study, the study participants were recruited from basic school level (grades 1–9) in both countries.

The Kingdom of Jordan and the UAE are both signatories to the United Nations Convention on the Rights of Persons with Disabilities and the Salamanca Statement and Framework for Action on Special Needs Education. Subsequent to becoming a signatory, the UAE introduced Federal Law Number 29 in 2006 to guide the education of children with disabilities in mainstream educational settings (Federal Government of the UAE, 2006). In 2010, the government launched the School for All policy, which provides guidelines on the participation of children with disabilities in both public and private schools (Federal Ministry of Education, 2010). Other policies were developed in 2009, 2019 and recently in the Centennial Vision 2071 plan to offer useful access to education for all children (Federal Ministry of Education, 2021). Furthermore, universities are also involved in the training of general education and special education teachers who are tasked to supervise and support the implementation of inclusive education in schools (Alzyoudi et al., 2021; Amr, 2011).

In Jordan, the Law on the Rights of Persons with Disabilities Act was promulgated in 2017 to optimize the development of children with disabilities in that country (Benson, 2020; the Hashemite Kingdom of Jordan Ministry of Education, 2020). This law makes provision for the education of children with disabilities in an appropriate learning environment where their development will be supported. In 2020, the government committed

itself to a 10-year strategy for inclusive education, with the main goal being increasing the enrolment rate of children with disabilities from the current less than 2% to at least 10% of school-going children with disabilities (the Hashemite Kingdom of Jordan Ministry of Education, 2020). Similarly, the 2018–2022 Education Strategy Plan of the Ministry of Education aimed at increasing the participation of all children, including those with disabilities, in schools located in their neighbourhoods (Humanity & Inclusion, 2022).

There is definitely an adequate legal framework and sufficient political commitment to the education of children with disabilities in Jordan and the UAE. Nevertheless, inclusive practices have been ineffective (Al-Hassan et al., 2022; Alodat et al., 2014; Alzyoudi, 2006; Amr, 2011; Anati, 2013; Hamaidi et al., 2012; Muhaidat et al., 2020), warranting the assessment of school practices by parents raising children with disabilities and typically developing children.

1.4 Goals and hypotheses

Parental perspectives on the implementation of inclusive education in Jordan and the UAE have not received much scholarly attention, and the body of literature on comparative studies on parental understandings of inclusive education is very small. This study attempts to fill the research gap by assessing parental opinions on the effectiveness of inclusive practices in Jordan and the UAE. Ainscow and Miles' (2009) inclusive measurement indicators (concept, policy, structure and system, and practice) were used as a framework to develop a broad understanding of practices across Jordan and the UAE. The following hypotheses were suggested:

Hypothesis I A linear relationship exist between the measurement domains (concept, policy, structure and system, and practice).

Hypothesis II There is differences between countries (Jordan vs UAE) on the inclusive measurement domains.

In order to test these hypotheses, the study was guided by the following research questions:

1. Is there a relationship between the inclusive education measurement indicators (concept, policy, structure and system, and practice) among parents in Jordan and the UAE?
2. Will demographic variables provide additional insight into parental assessments of inclusive education in Jordan and the UAE?
3. Will the country (Jordan vs the UAE) moderate the relationship between other demographics and inclusive practices as measured by parents?

2 Methods

2.1 Study participants

The participants of this study were parents who had enrolled their children in inclusive schools in Jordan and the UAE. Although both countries were selected based on convenience, they share common cultural and linguistic traits and are both committed to the

implementation of inclusive education for children with disabilities. Data were collected from 10 schools each in Amman, which is the capital of Jordan and in the UAE, data were collected from the Emirate of Abu Dhabi, which is also the national capital.

The data collection instrument was sent to schools for distribution to parents, and the inclusion criteria were as follows: (a) parent with any child enrolled in an inclusive school; (b) child is enrolled in a primary or secondary school; (c) parents with children enrolled in either public or private schools; (d) parents understand inclusive practices; and (e) parents have the capacity to consent to participating in the study.

Overall, a total of 550 parents completed the survey. While 63% (n = 347) of the surveys were completed in Jordan, 37% (n = 203) were from the UAE. Also, 86% of participants were females, compared to 14% who were males (see Table 1 for details).

Table 1 Summary of demographic characteristics of study participants

Category (N = 550)	Frequency	Percentage (%)
Country		
Jordan	347	63
UAE	203	37
Gender		
Male	77	14
Female	473	86
Age		
20–29	59	11
30–39	189	34
40–49	226	41
50 years and above	76	14
Educational qualification		
Secondary qualification	138	25
Diploma degree	84	15
Bachelor degree	236	43
Postgraduate	92	17
Number of children		
1–3 children	292	53
4–6 children	215	39
7 or above	43	8
School type		
Public school	286	48
Private school	181	33
Both public and private	103	19
Child type		
Yes	123	22
No	427	78
Inclusive policy		
Yes	340	62
No	210	38

2.2 Data collection instrument

A two-part instrument was used for data collection. The first part elicited demographic information from participants: country, gender, age, educational qualification, number of children, school type (public vs private school), child type and awareness of inclusive policy.

The second part of the instrument was the system inclusive education scale (SIES) developed from Ainscow and Miles' inclusive education measurement indicators (Opoku et al., in press). The instrument consisted of 26 items and four sub-scales (concept, policy, structure and system, and practice) and was based on five-point Likert scales with scores ranging from 1 (strongly disagree) to 5 (strongly agree) (see Table 2). The initial version was tested on teachers in Ghana and UAE (Opoku et al., in press), while the version used in this study was modified for clarity of understanding by parents across Jordan and the UAE.

The data were collected in both Arabic and English, as both languages are predominantly used in both countries. Both the Arabic and English versions of the scales were given to four experts, two in each country, to assess and advise whether the Arabic translation has the same meaning as the English version. They also commented on its appropriateness for data collection in both countries. Mengual-Andrés et al. (2016) recommended Delphi approach which is feedback from experts to ensure that instrument is appropriate to collect data for a given study. The comments from the four experts were incorporated into the final draft used for the data collection.

2.3 Procedure

The study and its protocols were approved by the social science ethics review committee at the United Arab Emirates University. Following this, invitations were sent to schools asking permission for the distribution of the study instrument. The research team selected a list of 10 inclusive schools in each country (total of 20 schools) and sent out invitations to the school leaders explaining the study objectives. The selected schools were chosen randomly from list of schools which was accessible to the research team. For instance, out of 92 and 82 list of schools in Abu Dhabi and Amman, respectively, every 5th school was invited to participate in this study.

Once approval had been obtained, a Google link to the instrument was sent to the schools to forward to parents who had children enrolled in the schools. The data were collected between November 2022 and January 2023. There was one survey link which contained both the English and Arabic versions of the items. Informed consent was implied in the sense that once a potential participant had read the information statement and had clicked on the link to the survey, it was presumed that they had consented to participate in the study. Participants were assured that neither their identity, nor the level of study of their children, nor the name of their school would be used in the reporting of the study. Participants were informed that they could also close the survey and discontinue responding to the items at any time without consequences. No incentive was given to participants to complete the survey.

Table 2 Summary of means

Code	Items	Mean (SD)
Concept		
Item_1	All stakeholders (e.g.,, teachers, students, parents) are committed towards implementation of inclusive education	3.59 (1.13)
Item_2	The content of the curriculum is relevant to all students with exceptional needs	2.67 (1.16)
Item_3	Teachers/community were consulted in the revision of curriculum for inclusive teaching	2.90 (1.17)
Item_4	The school curriculum has been designed for all students	2.82 (1.19)
Item_5	There is room for adaptation of the curriculum for all students	3.30 (1.10)
Policy		
Item_6	Inclusive education and goals are clearly defined in educational policies	3.21 (1.07)
Item_7	There is enough public education on inclusive education and its implementation in schools	2.81 (1.12)
Item_8	The admission process in schools is fair and transparent	2.99 (1.18)
Item_9	Parents advocate for the admission of all children in inclusive schools	3.55 (1.08)
Item_10	Information about inclusive education is easily accessible	3.14 (1.04)
Item_11	I know offices/institutions promoting the implementation of inclusive education	2.89 (1.09)
Item_12	The regional/district education officers provide a clear leadership on inclusive education	2.92 (1.08)
Item_13	School leaders are committed to implementing inclusive education policies	3.13 (1.07)
Item_14	School leaders are well educated about inclusive education	3.16 (1.07)
Practice		
Item_15	Teachers are trained and motivated to practice inclusive education	3.17 (1.11)
Item_16	All schools have policies guiding the implementation of inclusive education	2.91 (1.10)
Item_17	Schools have teaching plans or specific strategies for teaching disadvantaged students (e.g. students with learning disabilities, low socioeconomic status)	2.95 (1.17)
Item_18	There is regular in-service training on inclusive education for all	2.89 (1.11)
Item_19	Teachers are funded by government to access in-service training on inclusive education	2.90 (1.17)
Item_20	Evidence-based research guide practices and implementation of inclusive education	3.09 (1.12)
Item_21	There is regular evaluation of inclusive practices in schools	3.03 (1.08)

Table 2 (continued)

Code	Items	Mean (SD)
Structure and system		
Item_22	Schools (including teachers) have been given the needed resources to practice inclusive education for disadvantaged learners	2.92 (1.15)
Item_23	Training has been given to professionals such as teachers to assist the implementation of inclusive education	3.03 (1.14)
Item_24	Institutions have been set up to monitor the implementation of inclusive education	3.04 (1.11)
Item_25	Collaboration is promoted at all levels of implementation of inclusive education	3.26 (1.06)
Item_26	There is enough funding for schools to purchase inclusive teaching resources	2.84 (1.18)

2.4 Data analysis

The Google form data were transferred to Microsoft Excel for cleaning before being transferred to SPSS for analysis. The data were presumed to be normally distributed because of the large sample size.

Since the SIES was used on parents for the first time, its structural validity was assessed using structural equation modelling to compute the confirmatory factor analysis (CFA). The following fit indices were used to determine the appropriateness of the model: a chi-square of below 5, the comparative fit index (CFI), a Tucker–Lewis Index (TLI) of at least 0.09, and a root mean square error of approximation (RMSEA) and a standardized root mean square residual (SRMR) of below 0.08. Also, each item was expected to yield a regression weight of at least 0.50 for retention in the study (Awang, 2015; Hu & Bentler, 1999; Schumacher & Lomax, 2016).

To answer research question 1, the results of the correlations between the latent variables (concept, policy, structure and system, and practice) were observed. The correlations were interpreted as follows: small (r = 0.10–0.29), medium (r = 0.30–0.49) and large (r = 0.50–1.0) (Pallant, 2016, 2020).

To answer research question 2, a multivariant analysis of variance (MANOVA) was calculated to understand the association between the background variables and the latent variables. The demographic variables (e.g., country, gender, age, educational qualification, number of children, school type, child type and awareness of inclusive policy) were used as independent variables, while the continuous variables were used as dependent variables. There was no serious violation of the following assumptions: normality, linearity, outliers and homogeneity of variance. The Bonferroni adjusted alpha level of 0.01 (which is 0.05 divided by the number of independent variables) (Pallant, 2020) was the baseline to determine whether there was a difference between participants.

To answer research question 3, Andrew Haye's process, which is embedded in SPSS, was used for moderation analysis to determine the influence of the country (Jordan vs the UAE) on the relationship between other demographics and the latent variables. The moderator was the country, the demographic variables acted as the independent variables, and the latent variables acted as the outcome variables. In the imputation of the model, the bootstrap was set at 500, with the bias-corrected confidence intervals at 95.

3 Results

3.1 Structural validity of the SIES

The computation of the CFA provided structural support for the 26-item SIES: chi-square = 4.12 (CMIN = 1207.30, DF = 293), CFI = 0.92, TLI = 0.91, RMSEA = 0.08 and SRMR = 0.04. All the items yielded a regression weight of at least 0.50 (see Fig. 2), further supporting the validity of the SIES. Also, a strong correlation was found between the subscales: concept and policy ($r = 0.80$), concept and practice ($r = 0.77$), system and policy ($r = 0.87$), system and practice ($r = 0.97$), system and concept ($r = 0.75$) and policy and practice ($r = 0.92$) (see Fig. 2).

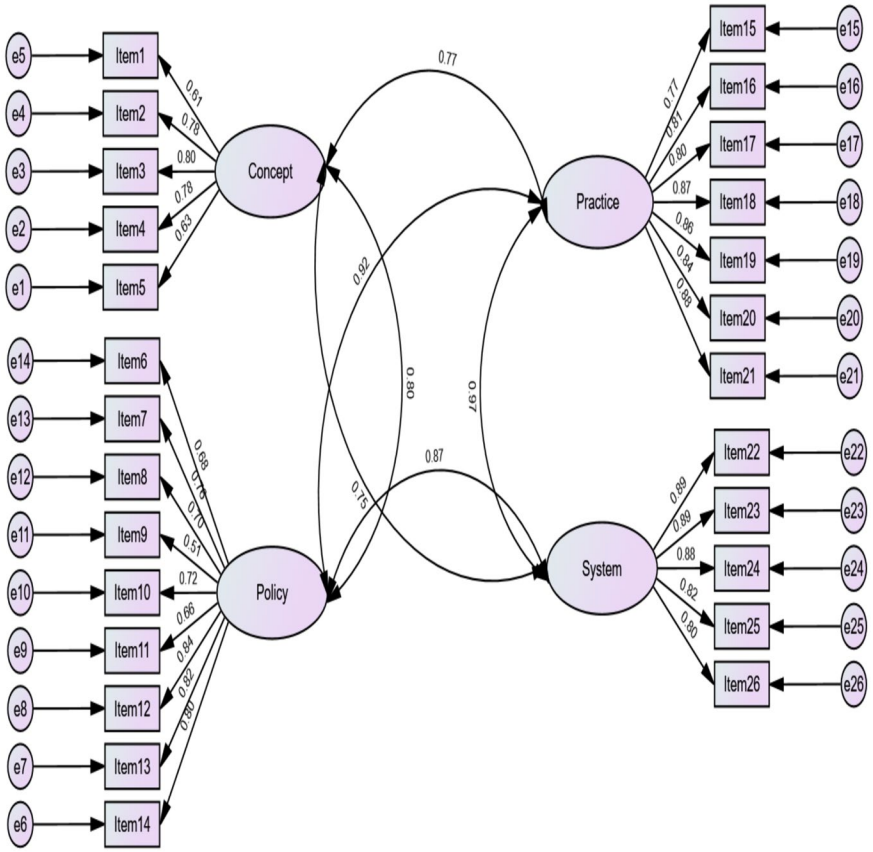

Fig. 2 Summary of confirmatory factor analysis

Computation of the reliability of the SIES using Cronbach's alpha indicated a score of 0.97. The sub-scales were as follows: concept (0.84), policy (0.91), practice (0.94), and structure and system (0.93).

The computation of the means indicated the following scores: SIES total ($M = 3.04$; $SD = 0.84$) and sub-scales (concept, $M = 3.06$, $SD = 0.90$; policy, $M = 3.09$, $SD = 0.83$; practice, $M = 2.99$, $SD = 0.97$; structure and system, $M = 3.02$, $SD = 0.99$) (see Table 2).

3.2 Association between demographics and practices

A MANOVA was used to calculate the differences between participants (Table 3). First, there were statistically significant differences between Jordan and the UAE on the combined dependent variables, F (4,545) = 19.82, $p = 0.001$, Wilks' Lambda = 0.87, *partial eta squared* = 0.13. When the results for the dependent variables were considered separately, differences were found between Jordan and the UAE on all the sub-scales. Inspection of the mean scores indicated that participants in the UAE scored higher on all the variables than their counterparts in Jordan.

Table 3 Association between demographic variables and measures

	F	d*f*	*p*	Partial eta squared
Country				
Wilks' Lambda	19.82	4	.001**	.13
Concept	11.29	1	.001**	.02
Policy	23.72	1	.001**	.04
Practice	54.85	1	.001**	.09
System	64.94	1	.001**	.11
Gender				
Wilks' Lambda	.86	4	.49	.006
Concept	.34	1	.56	.001
Policy	1.07	1	.3	.002
Practice	2.21	1	.14	.004
System	2.8	1	.1	.005
Age				
Wilks' Lambda	1.35	4	.18	.01
Concept	3.41	3	.02	.02
Policy	2.24	3	.08	.01
Practice	1.59	3	.19	.009
System	1.31	3	.27	.007
Educational qualification				
Wilks' Lambda	4.09	4	.001**	.06
Concept	1.8	3	.001**	.05
Policy	8.32	3	.001**	.05
Practice	9.87	3	.001**	.05
System	12.54	3	.001**	.06
Number of children				
Wilks' Lambda	2.14	4	.03*	.02
Concept	2.19	2	.11	.008
Policy	4.08	2	.02	.02
Practice	4.37	2	.01	.02
System	4.58	2	.01	.02
School type				
Wilks' Lambda	2.35	4	.02*	.02
Concept	1.33	2	.27	.005
Policy	5.43	2	.005	.02
Practice	5.78	2	.003	.02
System	6.3	2	.002	.02
Child type				
Wilks' Lambda	5.68	4	.001**	.04
Concept	13.47	1	.001**	.02
Policy	1.76	1	.001**	.02
Practice	16.57	1	.001**	.03
System	7.95	1	.001**	.01
Inclusive policy				
Wilks' Lambda	5.96	4	.001**	.04

Table 3 (continued)

	F	d*f*	*p*	Partial eta squared
Concept	.58	1	.45	.001
Policy	7.07	1	.008**	.01
Practice	4.25	1	.04	.008
System	2.86	1	.09	.005

Combined significant determined at $p < .05$; significance on individual latent variables measured at .001 based on Bonferroni adjusted alpha level

Second, differences were found between participants on educational qualifications on the combined dependent variables, F (4,543) = 34.09, $p = 0.001$, *partial eta squared* = 0.03. When the results for the dependent variables were considered individually, differences were found between participants on educational qualifications on all the sub-scales. An under-concept, post-hoc comparison using the Tukey HSD test indicated that participants who had secondary and diploma qualifications were different from those with degree and postgraduate qualifications. Specifically, the mean scores indicated that those with secondary and diploma qualifications scored high on concept compared to those with university degrees. Similar observations were reported on the policy, practice and system sub-scales.

Third, differences were found between participants on the number of children, F (4,544) = 2.14, $p = 0.03$, *partial eta squared* = 0.02. However, individually, no differences were found between participants on the two sub-scales of practice (F (2,547) = 4.37, $p = 0.01$, *partial eta squared* = 0.02) and system (F (2,547) = 4.58, $p = 0.01$, *partial eta squared* = 0.02).

Furthermore, differences were found between participants on the combined school type, F (4,544) = 2.35, $p = 0.02$, *partial eta squared* = 0.02. On the sub-scales, no differences were found between participants on the sub-scales of policy, practice and system.

With respect to child type, differences were found between participants, F (4,545) = 5.68, $p = 0.001$, *partial eta squared* = 0.04. Individually, differences were found between participants on all the sub-scales. It is apparent that participants without children with disabilities had a better understanding of inclusive practices than those who indicated otherwise.

3.3 Moderating effect of country

Moderation analysis was conducted to understand the effect of the country on the relationship between demographic variables and inclusive practices (see Table 4). Country moderated the relationship between other demographics (e.g., child type and awareness of inclusive policy) and inclusive practices.

First, country moderated the relationship between child type and all the measures: concept [$b = -3.28$, 95% CI [−5.07, −1.50], $t = -3.61$, $p = 0.0003$], policy [$b = -4.24$, 95% CI [−7.18, −1.29], $t = -2.83$, $p = 0.005$], practice [$b = -5.05$, 95% CI [−7.63, −2.48],

Table 4 Summary of interaction between country and inclusive practice

	Beta	Se	*t*	*p*	Confidence interval	
					Lower	Upper
Country × gender						
Concept	−1.28	1.25	−1.03	.3	−3.73	1.17
Policy	.89	2.04	.43	.66	−3.13	4.91
Practice	−.51	1.81	−.28	.78	−4.07	3.05
System	−.98	1.32	−.74	.46	−3.57	1.62
Country × age						
Concept	−.26	.48	−.55	.59	−1.20	.68
Policy	−.19	.79	−.25	.81	−1.74	1.36
Practice	.19	.7	.27	.79	−1.18	1.56
System	.07	.51	.14	.89	−.93	1.07
Country × educational qualification						
Concept	−.04	.37	−.12	.91	−.77	.68
Policy	−.11	.61	−.17	.86	−1.30	1.09
Practice	−.13	.54	−.24	.81	−1.18	.92
System	−.02	.39	−.04	.97	−.78	.75
Country × number of children						
Concept	−.41	.61	−.67	.5	−1.60	.78
Policy	−.27	.99	−.28	.78	−2.22	1.67
Practice	−.23	.88	.26	.8	−1.95	1.50
System	.34	.64	.54	.59	−.92	1.60
Country × school type						
Concept	−.89	.51	−1.74	.08	−1.89	.12
Policy	−1.42	.83	−1.71	.09	−3.05	.21
Practice	−1.28	.74	−1.75	.08	−2.73	.16
System	−.56	.54	−1.05	.29	−1.62	.49
Country × child type						
Concept	−3.28	.91	−3.61	.0003**	−5.07	−1.50
Policy	−4.24	1.5	−2.83	.005**	−7.18	−1.29
Practice	−5.05	1.31	−3.86	.0001**	−7.63	−2.48
System	−2.91	.97	−3.001	.003**	−4.81	−1.005
Country × inclusive policy						
Concept	−1.62	.83	−1.95	.05*	−3.25	.02
Policy	−3.75	1.35	−2.77	.006**	−6.41	−1.10
Practice	−2.9	1.20	−2.41	.02*	−5.26	−.53
System	−2.16	.88	−2.46	.01*	−3.89	−.44

$t=-3.86$, $p=0.0001$] and system [$b=-2.91$, 95% CI [−4.81, −1.005], $t=-3.001$, $p=0.003$].

To expand, in relation to concept, when parents are from Jordan, there were differences between parents on child type, $b=3.03$, 95% CI [1.91, 4.15], $t=5.30$, $p=0.001$. On the one hand, it was apparent that parents who had typically developing children scored higher on concept compared to those with children with disabilities. On the other

hand, when parents are from the UAE, differences were found between parents on child type, $b=-0.25$, 95% CI [−1.64, −1.13], $t=-2.24$, $p=0.03$.

With respect to policy, the results indicate that when parents are from Jordan, differences were found between parents on child type, $b=4.30$, 95% CI [2.45, 6.15], $t=4.57$, $p=0.001$. Parents of children with disabilities scored low compared to parents with typically developing children. By comparison, when parents are from the UAE, there is no difference between parents on child type, $b=0.06$, 95% CI [−2.23, 2.35], $t=0.05$, $p=0.96$.

Furthermore, in terms of practice, when parents are from Jordan, differences were found between parents, $b=4.98$, 95% CI [3.36, 6.60], $t=6.05$, $p=0.001$. Parents with typically developing children scored high on knowledge of inclusive practices compared to those with children with disabilities. By comparison, when parents are from the UAE, no difference was found between parents, $b=-0.07$, 95% CI [−2.07, 1.93], $t=$-0.07, $p=0.94$.

With respect to system, when parents are from Jordan, differences were found between parents based on the type of child, $b=2.74$, 95% CI [1.54, 3.94], $t=4.49$, $p=0.001$. Once again, parents with typically developing children scored higher on practice than parents with children with disabilities. However, when parents are from the UAE, no difference was found between parents on child type, $b=-0.17$, 95% CI [−1.65, 1.31], $t=-0.23$, $p=0.82$.

Interaction was found between country on the relationship between awareness of inclusive practices: concept [$b=-1$, 62, 95% CI [−1.62, 0.02], $t=-1.95$, $p=0.05$], policy [$b=-3.75$, 95% CI [−6.41, −1.10], $t=-2.77$, $p=0.006$], practice [$b=-2.90$, 95% CI [−5.26, −0.53], $t=-2.41$, $p=0.02$] and system [$b=-2.16$, 95% CI [−3.89, −0.44], $t=-2.46$, $p=0.01$].

To expand, in relation to concept, when parents are from Jordan, interaction was found between inclusive policy and concept, $b=1.02$, 95% CI [0.07, 1.96], $t=2.11$, $p=0.03$. Parents who seemed not to be aware of inclusive policy scored high on concept compared to those who indicated otherwise. On the other hand, when parents are from the UAE, no interaction was found between inclusive policy and concept, $b=-0.60$, 95% CI [−1.93, 0.73], $t=-0.89$, $p=0.38$.

With respect to policy, when parents are from Jordan [b = −0.09, 95% CI [−1.63, 1.44], t = −0.12, $p=0.91$, no difference was found between inclusive policy and policy. Conversely, when parents are from the UAE [$b=-3.85$, 95% CI [−6.01, −1.68], $t=-3.48$, $p=0.0005$, interaction was found between inclusive policy and policy, with parents who indicated awareness scoring high on policy compared to those who indicated lack of awareness.

In relation to practice, when parents are from Jordan [$b=0.28$, 95% CI [−1.09, 1.64], $t=0.40$, $p=0.69$], no interaction was found between inclusive policy and practice. However, when parents are from the UAE [$b=-2.62$, 95% CI [−4.55, −0.69], $t=-2.67$, $p=0.008$, interaction was found between inclusive policy and practice, with those who indicated being knowledgeable scoring high compared to those who indicated otherwise.

Finally, when parents are from Jordan [$b=0.41$, 95% CI [−0.51, 1.41], $t=0.80$, $p=0.42$], no interaction was found between inclusive policy and system. Conversely, when parents are from the UAE [$b=-1.76$, 95% CI [−3.16, −0.35], $t=-2.45$, $p=0.01$], interaction was found between inclusive policy and practice. Specifically, parents who indicated awareness of policy scored high on system compared to those who indicated otherwise.

4 Discussion

This study sought to explore parental assessments of the implementation of inclusive education in Jordan and the UAE. This study was conducted against the backdrop of a commitment by both Jordan and the UAE to promote the teaching of all students in regular classrooms. However, the achievement of such a political commitment partly depends on parents who are expected to enrol their children in inclusive schools or support inclusive practices in schools (Mann et al., 2015, 2018). Most importantly, the findings of the study provide theoretical support for the SIES developed based on Ainscow and Miles' (2009) inclusive education measurement indicators. The findings provide further justification for the usage of the SIES to assess inclusive practices by stakeholders in a given context.

The findings of the study provide support for Hypothesis I, which predicted relationships between the domains of the inclusive education measurement indicators (concept, policy, structure and system, and practice). This was expected in the sense that, consistently, inclusive education has been reported to be complex and require a multifaceted approach before countries are able to implement inclusive education (Ainscow & Miles, 2009; Ainscow & Sandill, 2010; Heward, 2013). In the current study context, parents seem to hold the position which is expected in contexts where the implementation of inclusive education has not been smooth. For instance, the available evidence indicates that, at the school level, there are a myriad of barriers militating against the successful implementation of inclusive education (Al-Hassan et al., 2022; Bamu et al., 2017; Begum et al., 2018; Brydges & Mkandawire, 2018; Carew et al., 2019; Forlin, 2011; Gaad, 2011; Magumise & Sefotho, 2018; Muhaidat et al., 2020; Singal et al., 2015). Similarly, in both countries, parents involved in raising children with disabilities are unable to access services required to optimize the development of their children with disabilities. This possibly means that policymakers in both countries ought to back policies introducing strong actions to achieve the desired outcomes. This could be in the form of appropriate structures, effective or practical policies, contextually appropriate resources and human resource development to advance inclusive practices in schools.

While relationships were found between the indicators, the findings indicate the ambivalence of participants towards inclusive practices in both countries. This finding is partly consistent with previous studies which reported parental concerns about the implementation or teaching of inclusive education (Magumise & Sefotho, 2018; Mann et al., 2018; Paseka & Schwab, 2020; Singal, 2016; Stevens & Wurf, 2018). This probably suggests that there are lapses in the implementation of inclusive education in both Jordan and the UAE (Alborno, 2017; Alkhateeb et al., 2016; Gaad, 2011; Gaad & Almotairi, 2013; Rodriguez, 2021). Empirical evidence from both countries suggests challenges pertaining to teacher training, resources, ineffective policies and negative attitudes toward children with disabilities (Al-Hassan et al., 2022; Gaad, 2011; Muhaidat et al., 2020; Rodriguez, 2021). These challenges could be known to the study participants, who probably see such challenges on a day-to-day basis and, as such, are aware of the ineffectiveness of inclusive practices in schools. Consequently, children with disabilities in both countries could be disadvantaged, as they might not have access to appropriate teaching and learning services.

Jordan (Humanity & Inclusion, 2022) and the UAE (Federal Ministry of Education UAE, 2021) have envisioned promoting quality and accessible education to all; however, such a vision could be a mirage when urgent steps are not put in place to address systemic challenges to inclusive education. This could begin with policymakers taking steps to engage stakeholders to assess or develop understanding of how inclusive education ought

to be implemented, the resources needed, training and a level of communal involvement in inclusive practices.

Hypothesis II is partially supported by the study findings, which indicate differences between the two countries. Specifically, parents in the UAE seemed to score higher on all the indicators (concept, policy, structure and system, and practice) than their counterparts in Jordan. Also, country as a variable had an interactive effect on the relationship between the effectiveness of practices, the type of child and awareness of inclusive policy. For instance, in Jordan, parents who had typically developing children scored high on all the indicators compared to those who indicated a lack of awareness. However, in the UAE, there was no difference between parents who took part in this study. Similarly, while parents who indicated knowledge of inclusive policy scored high on policy, system and practice in the UAE, in Jordan, those who indicated that they had no knowledge of policy scored high on concept compared to those who indicated otherwise.

These findings are partly consistent with a previous study which reported differences between parents in Ghana and Nigeria with respect to their attitudes towards the implementation of inclusive education (Opoku et al., 2022). The findings reported in this study are probably expected, in the sense that the UAE has a longer history of supporting the development of individuals with disabilities than Jordan. For instance, in terms of the development of disability policies, the UAE developed its first disability policy in 2006 (Federal Government of United Arab Emirates, 2006), compared to Jordan, whose first attempt was in 2017 (the Hashemite Kingdom of Jordan Ministry of Education, 2020). It is apparent that the participants in the UAE are better informed and more exposed to the implementation of inclusive education than their counterparts in Jordan. It is also possible that policymakers in the UAE have put more measures in place to advance the implementation of inclusive education than their counterparts in Jordan. Nevertheless, there is room for improvement in both countries and thus a need for policymakers to put mechanisms in place to expedite the implementation of inclusive education.

An interesting observation concerns the differences between participants based on educational qualifications. The result indicates that participants with lower qualifications seemed to have a better understanding of inclusive practices or more availability of inclusive support structures in both countries compared to their counterparts with higher qualifications. This finding is inconsistent with previous studies, which reported that parents with higher qualifications have a better attitude towards or understanding of inclusive practices than their counterparts with lower qualifications (Amponteng et al., 2019; Opoku et al., 2022; Torgbenu et al., 2021). There is evidence to support the theory that parents who are better educated are more involved in the education of their children than those with lower qualifications. Since the better educated are more involved in education practices, they would be in a better position to provide a fair assessment of practices. The findings reported in this study could be attributed to the fact that, perhaps, parents with lower qualifications do not have in-depth insight into practices in schools. In view of this, they might not be in a good position to assess inclusive practices. This probably underscores the need for policymakers and teacher educators to offer useful guidelines to parents in terms of their level of involvement in the education process. This would equip parents with the needed skills and understanding to support the education of their children and contribute towards successful education practices in schools.

Another difference was found between parents based on their child type. The parents of children without disabilities indicated a better understanding of inclusive practices than their counterparts with children with disabilities. The results of the interactions also indicate that parents of typically developing children could be more knowledgeable about

inclusive practices compared to those with children with disabilities. This finding is inconsistent with previous studies, which reported no difference between parents of children with disabilities and parents of normally developing children on inclusive practices (Amponteng et al., 2019; Opoku et al., 2022; Torgbenu et al., 2021). In the current study, the differences could be attributed to parents with typically developing children probably seeing their children learning together with their peers with disabilities. Probably their assessment could be attributed to observations which they presume to constitute effective practices. However, the implementation of inclusive education goes beyond the mere presence of children with disabilities in regular schools and involves what really happens in classrooms. It is possible that parents with children with disabilities noticed that their children are not receiving the required teaching services, and this could be a fair assessment of practices. This probably suggests the need for stakeholder engagement with parents with children with disabilities in order to understand their concerns and need for services they wish are available for their children in regular schools.

4.1 Study limitations

This research study is not without limitations. For instance, the data were collected via schools in both countries, but it was beyond the scope of this study to verify whether indeed parents whose children were enrolled in the selected schools completed the survey. Since the initial invitations were sent to schools asking for permission before sending the links, there is a high probability that the instrument was circulated to parents whose children were enrolled in the schools. Second, the data were collected virtually and, as such, there was no physical contact between the research team and the participants. This could raise concerns as to whether the participants understood the items before responding to them. It is useful to state here that the contact details of the research team were provided on the information statement. Participants were free to contact the research team for clarification on any of the items. Also, the instrument was in two languages, which gave participants the opportunity to read the items in their preferred language before responding. Third, it was beyond the scope of this study to gather detailed explanations regarding the responses provided. It is recommended that future studies use a qualitative method as a follow-up to gather in-depth insights into parental understandings of inclusive practices in the study area or similar contexts.

4.2 Conclusion and implications for practice

The purpose of this comparative study was to explore parental understandings of inclusive education practices. The results of the current study provide theoretical support for SIES, which was adapted for this study. The findings have extended our understanding of the implementation of inclusive education in two Arabian countries. Most importantly, two hypotheses which were tested in this research study were supported by the study findings. In particular, interdependencies were noted between components of the inclusive education measurement indicators (concept, policy, structure and system, and practice). Also, moderation analysis indicated differences between parents from the two countries in terms of child type and awareness of inclusive education policy. Another variable, namely the relationship between educational qualification and child type, provides additional insight into parental understandings of inclusive practices.

It is understandable that both Jordan and the UAE are committed towards advancing inclusive practices in education. This is clear from the availability of policies and national declarations to support inclusive practices. This study provides useful information on parents, who are important stakeholders in the education process. This information can be considered by policymakers deciding on future reforms towards inclusive education. For instance, it is evident that policymakers might not be able to advance inclusive practices if urgent steps are not taken to educate the general populace, develop appropriate policies and provide human resource training and leadership training to support inclusive practices in schools. Each of these indicators could be considered in future educational reforms to ensure meaningful access to education. Furthermore, policymakers could consider engaging parents regarding their concerns or to provide inputs into the policies and practices. Both parents with typically developing children and children with disabilities could be engaged to discuss ways to promote inclusive practices in Jordan and the UAE. Moreover, the development of appropriate inclusive policies could be done in tandem with creating awareness to ensure that stakeholders such as parents are well informed about the implementation of inclusive education. Consideration of these recommendations in future policies could go a long way towards promoting accessible education to children with disabilities in regular schools in Jordan and the UAE

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Data availability The data is available on request to the corresponding author.

Declarations

Conflict of interest The authors declare no conflict of interest.

Ethical approval The authors have no other financial or non-financial competing interests to declare. This study was approved by the United Arab Emirates University Human Research Ethics Committee. All the participants consent to participant in this study.

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